SHEVEL'KOV, V. L.

"Determination of the Temperature Field in an Isotropic Medium in Front of a Moving Source of Heat," Zhur. Tekh. Fiz., 16, No.2, 1946; Mbr., Chair of Physics, Moscow Technological Inst. Food Industry, -1945-.

SHEVEL'KOV, V.L., DOCENT DOC TECH SCI

Dissertation: "Methods for Determination of the Thermophysical Properties of Metals Based on Nonstationary Thermal Conditions."

26 May 49
Moscow Chemico-technological Inst of Meat Industry.

SO Vecheryaya Moskva
Sum 71

Shevel'kov, V.L.

D-4

Category : USSR/Atomic and Molecular Physics - Heat

Abs Jour : Ref Zhur - Fizika, No 2, 1957 No 3503

Author : Shevel'kov, V.L.
Title : Methods of Analytical Determination of the Temperature of Isotropic Materials

Orig Pub : Tr. Mosk. tekhnol. in-ta myas. i moloch. prom-sti, 1956, vyp. 6, 151-155

Abstract : No abstract

Card : 1/1

SHEVEL'KOV, V.L., doktor tekhnicheskikh nauk, professor.

Drying improves the quality of produce. Nauka i pered.op.v sel'khoz. 7 no.7:65-66 Jl '57. (MLRA 10:8)
(Farm produce--Drying)

SHEVEL'KOV, V.L.

Study of the thermal characteristics of wet insulating materials. (MIRA 10:12)
Trudy MTIPP no.8:170-179 '57.
(Insulating materials)

SHEVEL'KOV, V.I., professor.

All-Union Scientific and Technical conference on intensification of processes and improving the quality of materials in drying. Prom. energ. 12 no.5:37 My '57. (MLRA 10:6)

1. Zamestitel' predsedatelya Komiteta po sushke pri Vsesoyuznom sovete nauchno-tekhnicheskikh obshchestv.
(Moscow--Drying--Congresses)

PHASE I BOOK EXPLOITATION 1095

Shevel'kov, Vasiliy Leont'yevich

Teplofizicheskiye kharakteristiki izolyatsionnykh materialov (Thermophysical Characteristics of Insulating Materials) Moscow, Gosenergoizdat, 1958. 95 p. 6,450 copies printed.

Ed.: Sinel'nikova, L.N.; Tech. Ed.: Voronin, K.P.

PURPOSE: This book is intended for technical workers, heat engineers and heat-engineering students.

COVERAGE: The author examines the most important characteristics of heat-insulating materials and methods for experimental determination of their thermophysical coefficients. The book is based on the contemporary theory of heat and mass transfer processes of bound matter in capillary and porous bodies. No personalities are mentioned. There are 293 references of which 220 are Soviet, 46 English, 19 German, 5 French, and 3 Italian.

Card 1/4

SHIFRIN, M.A., kand.tekhn.nauk (g.Moskva); SHAPOVALOV, I.S., inzh.; KUROCHKIN, M.; YERSHOV, A.V., starshiy nauchnyy sotrudnik; SHEVEL'KOV, V.L., prof., doktor tekhn.nauk

Heat engineering standards and regulations in construction should be revised. Inzh.-fiz. zhur. 4 no.9:120-126 S '61. (MIRA 14:8)

1. Issledovatel'skiy institut eksperimental'nogo proyektirovaniya Akademii stroitel'stva i arkhitektury SSSR (for Shapovalov). 2. TSentral'nyy institut nauchnoy informatsii po stroitel'stvu i arkhitekture Akademii stroitel'stva i arkhitektury SSSR (for Kurochkin). 3. Nauchno-issledovatel'skiy institut po stroitel'stvu Akademii stroitel'stva i arkhitektury SSSR, g. Tashkent (for Yershov). 4. MKhTIMP (for Shevel'kov).

(Building laws) (Heat engineering)

AKULOV, N.S., akademik; GINZBURG, A.S., doktor tekhn.nauk, prof.; KOSTERIN, S.I., doktor tekhn.nauk, prof.; LYKOV, A.V., akademik; POMERANTSEV, A.A., doktor fiziko-matematicheskikh nauk, prof.; SIROTA, N.N., akademik; SHEVEL'KOV, V.L., doktor tekhn.nauk, prof.

Aleksandr Savvich Predvoditelev; on his 70th birthday. Inz.-fiz. zhur. 4 no.12:106-108 D '61. (MIRA 14:11)

1. Akademiya nauk BSSR (for Akulov, Lykov, Sirota).
(Predvoditelev, Aleksandr Savvich, 1891-)

SHEVEL'KOV, V.L., doktor tekhn.nauk

Theory of the heat resistance of exterior walls of buildings.
Izv.ASiA no.3:92-96 '62. (MIRA 15:11)
(Walls--Thermal properties)

SHEVEL'KOV, V. L.

All-Union Conference on the Automation of Drying Processes in Industry and Agriculture. Inzh.-fiz. zhur. 6 no.1:122-128 Ja '63. (MIRA 16:1)

(Drying--Congresses) (Automation)

KAMIONSKIY, L.M.; LYKOV, M.V.; SHEVEL'KOV, V.L.

Automatic drying in industry and agriculture. Inzh. fiz. zhur. 7 no.6:137-139 '64. (MIRA 17:12)

LYKOV, A.V.; SHEVEL'KOV, V.L.; NESTERENKO, A.V.; LEBEDEV, P.D.; MAKSIMOV, G.A.; NIKITINA, L.M.

IUrii Leonidovich Kavkazov; on his 70th birthday. Inzh.-fiz. zhur. 8 no.1:124-125 Ja '65. (MIRA 18:3)

SHEVEL'KOV, V.L.

Thermal properties of the outside walls of buildings. Inzh.-fiz. zhur. 8 no.2:250-254 F '65. (MIRA 18:5)

1. Vsesoyuznyy zaochnyy inzhenerno-stroitel'nyy institut, Moskva.

KUZNETSOV, S.M.; SHEVEL'KOVA, L.I.

Effect of deformations in grinding and polishing tools on the precision of surface configurations of machined optical parts. Opt.-mekh.prom. 25 no.6:33-37 Je '58. (MIRA 11:10)
(Grinding and polishing)

83903

S/020/60/134/003/017/020
B004/B067

11.1210
5.3200

AUTHORS: Antonovskiy, V. L., Berezin, I. V., and Shevel'kova, L. V.

TITLE: The Relative Reactivity of the C-H and C-T Bonds of n-Heptane, Benzene, Toluene, Ethylbenzene, and Cyclohexane in the Interaction With $CH_3^\cdot$ in the Liquid Phase

PERIODICAL: Doklady Akademii nauk SSSR, 1960, Vol. 134, No. 3, pp. 621-624

4

TEXT: The authors determined the rate constants k of the reactions of the C-H and C-T bonds on the following assumptions: In a system consisting of two organic compounds A and B, A has the number r of types of reactive C-H bonds, the bond of type j being tagged with tritium. Compound B is not tagged and has p types of C-H bonds. The total number of C-H bonds is assumed to be n. In this system, free methyl radicals are produced by thermal decomposition of benzoyl peroxide at 55° or 85°C. Equation (1) is written down for the composition $[CH_4]/[CH_3T]$ of methane which was formed according to the reaction equation $RH(T) + CH_3^\cdot \longrightarrow R^\cdot + CH_4(CH_3T)$.

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83903

The Relative Reactivity of the C-H and C-T Bonds of n-Heptane, Benzene, Toluene, Ethylbenzene, and Cyclohexane in the Interaction With $CH_3^\cdot$ in the Liquid Phase

S/020/60/134/003/017/020
B004/B067

The equation $I_A/I_M = k^H_{6A}/k^T_{jA} + (k^H_{6B}/k^T_{jA}).([B]/[A])$ (2) served for an experimental determination of the rate constant k, where I_A, I_M denote the activities of substance A and methane; $k^H_{6A} = \sum^{r} n_i k^H_i$; $k^H_{6B} = \sum^{p} n_1 k^H_1$. The authors determined (1) k^H_{6A}/k^T_{jA}, where $CH_3^\cdot$ was generated only in A; (2) k^H_{6B}/k^H_{6A} by generating $CH_3^\cdot$ in a mixture of A and B; (3) k^H_{6B}/k^T_{jA}, where a concentration ratio $[A] \ll [B]$ was chosen for a high activity of A. First, the authors carried out the reaction between non-tagged n-heptane, benzene, and toluene on the one hand, and tagged cyclohexane on the other. The values for the reaction of $n\text{-}C_7H_{14}$ with C_6H_{12} are given in Table 1. For saturated hydrocarbons $k^H_{hept}/k^H_{cyc.hex}$ is independent of the composition of the mixture. In the systems C_6H_6 - C_6H_{12} and $C_6H_5.CH_3$ - C_6H_{12} it was found that the quotients of k depended largely on the composition of the mixture (Figs. 1,2). Hence, a second experimental series was

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83903

The Relative Reactivity of the C-H and C-T Bonds of n-Heptane, Benzene, Toluene, Ethylbenzene, and Cyclohexane in the Interaction With CH_3· in the Liquid Phase

S/020/60/134/003/017/020
B004/B067

carried out to eliminate this specific effect of the aromatic cycle. $C_6H_5CH_3$ and $C_6H_5CH_2CH_3$ were tagged with tritium in their CH_3 group, dissolved in small concentrations (0.134 - 4.00 wt%) in non-tagged C_6H_{12}, and reacted with CH_3·. Under these experimental conditions the relative rate constants for the tearing off of tritium did no longer depend on the composition (Tables 2,3). The following ratio was obtained for 85°C: $k^T_{hept} : k^T_{eth.benz.} : k^T_{tol} = 1 : 14.5 : 28$. Thus, the phenyl group has a strongly activating effect on the hydrogen atoms of the CH_3 group in toluene as well as in ethylbenzene. The high mobility of the primary hydrogen atoms in $C_6H_5C_2H_5$ might indicate a still unknown mechanism.

There are 2 figures, 3 tables, and 8 references: 5 Soviet and 3 US.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im.M.V. Lomonosova (Moscow State University imeni M. V. Lomonosov)

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83903

The Relative Reactivity of the C-H and C-T Bonds of n-Heptane, Benzene, Toluene, Ethylbenzene, and Cyclohexane in the Interaction With $CH_3^{\bullet}$ in the Liquid Phase

S/020/60/134/003/017/020
B004/B067

PRESENTED: April 27, 1960, by N. N. Semenov, Academician

SUBMITTED: March 28, 1960

Card 4/4

31091
S/195/61/002/004/007/009
E050/E585

5.4300

AUTHORS: Brodskiy, V. M., Kalinenko, O. S., Petrovskiy, K. P. and Shevelkova, L. V.

TITLE: Principles of the decomposition of methanol at high temperatures

PERIODICAL: Kinetika i kataliz, v. 2, no. 4, 1961, 553-561

TEXT: Previous investigations of the decomposition of alcohols from C_2 to C_4 postulated an approximately first-order reaction, involving rupture of C-C or C-H bonds but the yields and mass balances of C, H and O have disagreed by about 50% and the activation energy for reaction velocity has been many times smaller than that for pressure decrease in the system. Decomposition of methanol was considered by C. J. M. Fletcher (Ref. 6: Proc. Roy. Soc. A147, 119, 1934) to be two-stage.

$$CH_3OH \rightarrow CH_2O + H_2$$

$$CH_2O \rightarrow CO + H_2$$

with similar discrepancies. The present work studied the reaction

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Principles of the decomposition

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S/195/61/002/004/007/008
E030/E585

at temperatures from 630 to 900°C and at pressures of 25 and 45 mm Hg with quartz and corundum as heat carriers. The pressure was maintained constant by a special valve and the output of H_2, CO and CH_4 were measured by adsorption on cooled active charcoal while the [illegible] was measured not only by condensation but also by subsequent chromatographic analysis over a charcoal column using hydrogen as carrier gas. The concentration of CH_3OH varied with the form: $(CH_3OH)_0 / (CH_3OH) = 1 + kt$ (1)

where t is the time of reaction, $(CH_3OH)_0$ - the concentration CH_3OH in the initial mixture, (CH_3OH) - the current concentration of the alcohol, k - the coefficient of volume change of the gas as a result of the cracking. There is clearly a first-order system but it is not homogeneous having an activation energy of 14.2 kcal/mole from 644 to 807°C and 40 kcal/mole up to 900°C. To verify the hypothesis that surface heat conduction dominated at lower temperatures, powdered corundum was introduced into the quartz reaction [illegible] much higher activation energy was found and the output of H_2 was increased fourfold and that of all hydrocarbon

Card 2/4

Principles of the decomposition ...

gases twofold In all cases the reaction products had significant concentration of C_2H_6, CH_3OCH_3, $C_2H_5OCH_3$, $C_2H_5OC_2H_5$, CH_3CHO, CH_3COCH_3 etc signifying extensive free radical formation Moreover, thermodynamic data on the decomposition of methanol predict reaction velocities some two or three orders of magnitude less than observed, so one must be dealing in practice with the formation of free radicals by a highly developed chain reaction. To support this, high concentrations of ethylene were found (20-50% of ethane) and it is known that in the 654-734°C region there is insignificant cracking of methane: the only alternative plausible source is from recombination of CH_3 radicals. V.V.Voyevodskiy is mentioned in the article for his contribution in this field Acknowledgments are expressed to N.N.Naymushin for his assistance. There are 3 figures, 6 tables and 16 references 5 Soviet-bloc and 11 non-Soviet-bloc. The four latest English-language references read as follows: Ref.1: J.A.Barnard, H.W.D. Hughes, Trans Faraday Soc 56 55 1960; Ref 2: Ibid. 56, 64, 1960; Ref.3: J A Barnard Ibid 56 72 1960; Ref 5:Ibid,55,947, 1959.

Card 3/4

31091

Principles of the decomposition ... S/195/61/002/004/007/008
E030/E595

ASSOCIATION: Institut neftekhimicheskogo sinteza AN SSSR
(Institute of Petrochemical Synthesis AS USSR)

SUBMITTED February 15, 1961

Card 4/4

S/020/62/144/004/018/024
B101/B138

AUTHORS: Brodskiy, A. M., Kalinenko, R. A., Lavrovskiy, K. P., Corresponding Member AS USSR, and Shevel'kova, L. V.

TITLE: Mechanism of by-product formation in high-temperature cracking of ethane

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 144, no. 4, 1962, 817-820

TEXT: Following previous papers and using techniques described therein (ZhFKh, 33, no. 11 (1959); ibid., 34, no. 1 (1960)) the formation of CH_4, C_2H_2, C_3H_8, C_3H_6, C_4H_{10}, C_4H_8, and C_4H_6 during the cracking of ethane at 800-880°C and 90 ± 3 mm Hg with additional 0.45% of ethylene tagged by C^{14} was examined. Corundum or ground quartz was used as a heat carrier. The reaction products were separated by chromatography and their radioactivity was measured. Results: (1) CH_4 showed low activity, indicating that it is formed mainly from C_2H_4 of low activity and from transformation products thereof. About one-half of the CH_4 is formed without the participation of

Card 1/3

Mechanism of by-product formation ...

CH_3^* by the decay of high-molecular products. (2) The equal degree of activity exhibited by C_2H_2 and C_2H_4 indicates that C_2H_2 is formed with the participation of a C_2H_4 molecule. (3) C_3H_8 and C_4H_{10} had a low content of C^{14}. They are formed by recombination of weakly active CH_3 and C_2H_5 radicals. (4) C_3H_6 and C_4H_8 showed the same activity as C_2H_4. They are not formed from C_3H_8 and C_4H_{10}, respectively, but mainly by the disintegration of C_4H_9 and, at temperatures < 880°C, also by C_2H_3 recombining with CH_3 or C_2H_5. (5) The fact that C_4H_6 (divinyl) is twice as active as C_2H_4 justifies the supposition that it is formed with the participation of 2 molecules of C_2H_4. As $[C_4H_6]$ is larger than corresponds to the equilibrium concentration in the reaction $C_4H_6 \rightleftharpoons C_2H_2 + C_2H_4$, a complex reaction involving free radicals is assumed. (6) The specific activity of the coke at 880°C amounted to one-half the activity of C_2H_4. At this

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Mechanism of by-product formation ...

temperature it is produced from highly active, unsaturated hydrocarbons. At lower temperatures the coke was much less active, implying that this is the point at which the interaction of unsaturated and condensed hydrocarbons with weakly active alkyl radicals begins to predominate. There are 2 tables. The English-language reference is: C. G. Danby, B. C. Spall et al., Proc. Roy. Soc., A218, no. 1135, 450 (1953).

ASSOCIATION: Institut neftekhimicheskogo sinteza Akademii nauk SSSR (Institute of Petrochemical Synthesis of the Academy of Sciences USSR)

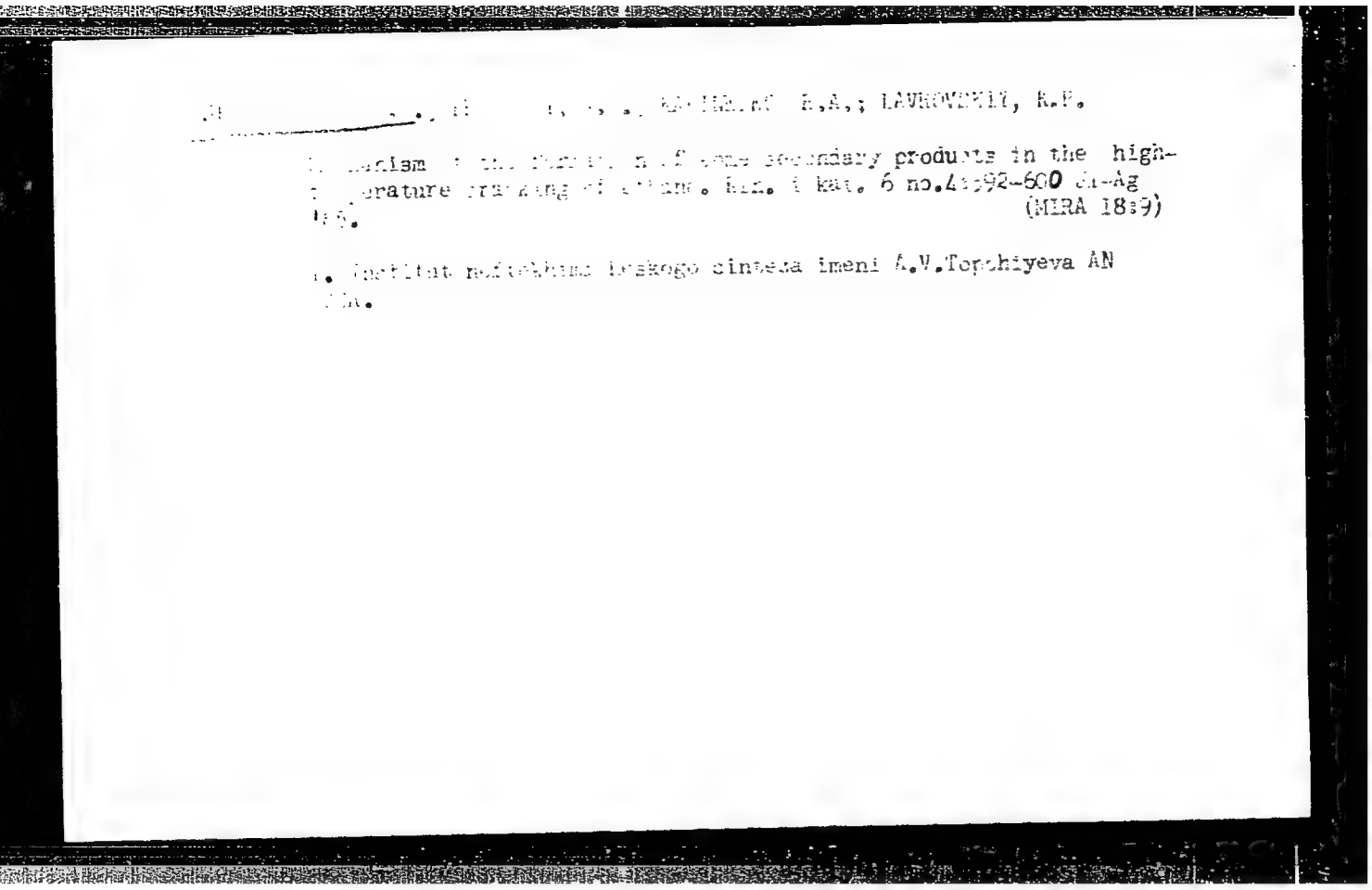
SUBMITTED: February 27, 1962

X

SHEVELKOVA, L.V.; BRODSKIY, A.M.; KALINENKO, R.A.; LAVROVSKIY, K.P.

Mechanism underlying the formation of secondary products in the high-temperature cracking of ethane. Dokl. AN SSSR 160 no.2: 409-412 Ja '65. (MIRA 18:2)

1. Institut neftekhimicheskogo sinteza im. A.V. Topchiyeva AN SSSR. 2. Chlen-korrespondent AN SSSR (for Lavrovskiy).



L 1363-66 EWT(m)/EPF(c)/EWP(j)/EWA(c) RPL WW/RM

ACCESSION NR: AP5020833 UR/0020/65/163/004/0920/0923

AUTHOR: Brodskiy, A. M.; Kalinenko, R. A.; Shevel'kova, L. V.; Yampol'skiy, Yu. P.; Lavrovskiy, K. P.

TITLE: Mechanisms of the conversions of ethylene and acetylene during hydrocarbon pyrolysis

SOURCE: AN SSSR Doklady, v. 163, no. 4, 1965, 920-923

TOPIC TAGS: pyrolysis, acetylene, ethylene, temperature conversion, excited state, hydrocarbon

ABSTRACT: An explanation of the course and mechanism of acetylene conversion under ethylene pyrolysis conditions was sought in this study of pyrolysis in the 800-1000 C range of mixtures of ethylene and tagged acetylene. Acetylene conversion was determined from the distribution of radioactivity in the pyrolysis products. At the lower temperatures none of the pyrolysis products except coke was formed from acetylene, and formation of coke and methane was minimum at 900 C. Participation of acetylene in the formation of other gaseous products increased with temperature. The energy of activation is about 10 kcal/mol. It was concluded that benzene was formed equally by reactions involving no acetylene

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L 1363-66
ACCESSION NR: AP5020833

3

and reactions in which only acetylene and its conversion products took part. Traces of cyclohexane formed below 900 C disappeared at elevated temperatures, and apparently it is intermediate in the formation of untagged benzene. Very little acetylene was used to form methane and divinyl. The coke deposited at the lower temperature was primarily formed directly from the acetylene. At 950-1000 C the coke was formed as a result of the conversion of ethylene and other hydrocarbons having low specific radioactivity. The energy of activation for these reactions is about 80 kcal/mol. The acetylene added initially to the ethylene decomposed much faster than acetylene formed during the course of pyrolysis. This may be associated with the formation of the excited triplet state in acetylene but needs further investigation. Orig. art. has: 3 figures, 11 equations, and 1 table

ASSOCIATION: Institut neftekhimicheskogo sinteza im. A. V. Topchiyeva AN SSSR (Institute of Petrochemical Synthesis AN SSSR)

SUBMITTED: 16Oct64 ENCL: 00 SUB CODE: GC

NR REF SOV: 004 OTHER: 004

Card 2/2

L 3529/-66 EWT(m)/T WE

ACC NR: AP6026822 SOURCE CODE: GE/0065/66/231/03-/0173/0182 (UR)

AUTHOR: Kalinonko, Ruth Abramova (Doctor); Brodski, Anatol Moiseovitsch (Professor; Doctor); Shevelkova, Ludmila Vladimiroyna (Doctor)

ORG: Institute for Petrochemical Syntheses, AN SSSR, Moscow 23 B

TITLE: Laws governing the thermal cracking of low hydrocarbons [This paper was presented at the Annual Meeting of the Chemical Society of the DDR, held in Leipzig in 1964.]

SOURCE: Zeitschrift fur physikalische Chemie, v. 231, no. 3-4, 1966, 173-182

TOPIC TAGS: hydrocarbon, chemistry technique, petrochemistry

ABSTRACT: In his lecture delivered at the 1964 general Meeting of the East German Chemical Society (Chemische Gesellschaft in der Deutschen Demokratischen Republik) in Leipzig, the author described attempts to develop a scheme for the sequence in which the various thermal cracking products form and to determine quantitatively the most important velocity constants of the individual processes and process combinations involved in the thermal cracking of low hydrocarbons. Twenty-five equations were derived and discussed. Orig. art. has: 25 formulas. [JPRS: 36,464]

SUB CODE: 07 / SUBM DATE: 16Nov64 / ORIG REF: 002 / OTH REF: 004

Card 1/1

TROFIMKOVA, [illegible]; GULYAYEV, M.I.; TARTAKOVSKIY, B.D.; NAUMKINA, N.I.;
Prinimali uchastiye: GULYAYEV, V.A.; SHOVEL'KOVA, N.P.

Effect of various components on the vibration-absorbing properties of polymeric materials. Plast.massy no.10:36-40 '64. (MIRA 17:10)

28681
S/021/60/000/007/004/009
D211/D305

13,2540

AUTHORS: Shevelo, V.M., and Shtelik, V.H.

TITLE: On the motion of a pendulum of variable length and mass

PERIODICAL: Akademiya nauk Ukrayins'koyi RSR. Dopovidi, no. 7, 1960, 884 - 887

TEXT: The aim of the paper is to consider the motion of a pendulum with variable mass and length and to determine the initial values, for which the motion is an oscillation or a rotation. The equation of motion of such a pendulum - using the law of conservation of momentum - could be described by the following equation

$$\ddot{\theta} + \left(\frac{\dot{m}}{m} + \frac{\dot{l}}{l} + [\text{illegible}]\right)\dot{\theta} + \frac{g}{l}(\sin\theta - \sin\theta_p) = \frac{\dot{m}}{ml}u \qquad (1)$$

where $m(t)$ is a mass, $l(t)$ is a length, $\theta_p(t)$ - angle of deflection from the positions of stable equilibrium, $u(t)$ - projection

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S/021/60/000/007/004/009
D211/[illegible]305

On the motion of a pendulum ...

of velocity on the tangent [illegible] the trajectory of the pendulum. By the oscillatory motion of a pendulum described by Eq. (1) in the interval of time $t_o \leqslant t \leqslant t_o+T$. It is understood such motion that $\theta(t)$ has not less than one turning point, i.e. $\dot{\theta}(t_j) = 0$, $t_j \in [t_o, t_o + T]$, $(j = 1, \ldots, s)$, $s \geq 1$; $/\theta_o, \theta_p(t_o)/ < \pi$; $-\pi < \theta(t_j) - \theta_p(t_j) < \pi$. $-\pi < \theta(t_o + T) - \theta_p(t_o + T) < \pi$. The motion of pendulum when $\dot{\theta}(t)$ is different from [illegible] in the time interval $t_o < t < t_o + T$ and $\theta(t_o + T) > \pi - \theta_p(t_o + T)$ or $\theta(t_o + T) < -\pi + \theta_p(t_o + T)$ is called the rotational motion. The set of conditions for θ_o, $\dot{\theta}_o$ which guarantee the oscillating motion are then called the region of oscillation. The region of rotation could be defined in the same way. The author then considers the case $\theta_p = 0$, $u = 0$.

ASSOCIATION: Instytut matematyky AN USSR (Institute of Mathematics AS UkrSSR)

PRESENTED: by Y.Z. Shtokalo, Academician AS UkrSSR
SUBMITTED: July 17, 1959
CARD [illegible]

S/021/60/000/008/001/011
D210/D305

AUTHORS: Shevelo, V.M., and Shtelik, V.H.

TITLE: On the condition of oscillation (non-oscillation) of solutions of non-linear equations of the second order with variable coefficients

PERIODICAL: Akademiya nauk Ukrayins'koyi RSR. Dopovidi, no. 8, 1960, 1007 - 1010

TEXT: The aim of the paper is to find the regions of oscillation and non-oscillations for solving the second order differential equation

$$\ddot{y} + s(t)\,\dot{y} + r(t)\,f(y) = 0, \qquad (1)$$

where $s(t)$, $r(t) > 0$ are continuous functions in the interval $t_0 \leqslant t \leqslant t_0 + T$; $f(0) = 0$ and $f(y)$ satisfies the Lipshits conditions and is such that $\int f(y)dy = F(y) \leqslant \bar{F}$, $\bar{F} > 0$ for all y. The oscillating solution of Eq. (1) in the interval $t_0 \leqslant t \leqslant t_0+T$ is

Card 1/5

On the condition of oscillation ...

such a solution $y(t)$ for which $\dot{y}(t)$ for $t \in [t_0, t_0 + T]$ has not less than one zero, i.e. where b is a constant [$\dot{y}(t_j) = 0$, $j = 1, \ldots, s$, $s > 1$] and $/y(t_j)/ < b$, $/y_0/ < b$. The solution of (1) is a non-oscillating solution in the interval $t_0 \leqslant t \leqslant t_0 + T$, if $\dot{y}(t)$ has no zeros and $/y(t_0 + T)/ > b$. The region of oscillation of the solutions of the equation is the set of initial conditions y_0, $\dot{y}_0$ which in the given interval $(t_0, t_0 + T)$ secure the existence of oscillating solutions. The author shows next how to change Eq. (1) into a new form

$$y^2 = Q(t)\,[1 - k^2(t)\,G(t)] \tag{4}$$

where

$$Q(t) = \exp\left(-2\int_{t_0}^{t} s\,dt\right)\left[\dot{y}_0^2 + 2(R_0F_0 + \alpha + \beta)\right],$$
$$k^2(t) = \frac{4(\alpha+\beta)}{\dot{y}_0^2 + 2(R_0F_0 + \alpha + \beta)}. \tag{5}$$

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$$0 \leq G(t) = \frac{(RF + u) + (\beta - \int_{t_0}^{t} R'F\,dt)}{2(\alpha + \beta)} \leq 1, \qquad (5)$$

$R_0 = R(t_0)$, $F_0 = F(y_0)$.

$R_o = R(t_o)$, $F_o = F(y_o)$ $R(t) = r(t) \exp(2 \int_{t_1}^{t_2} s\,dt) > 0$ and $\alpha(t)$, $\beta(t)$ functions for which

$$R(t)F(y) \leq \alpha(t), \int_{t_0}^{t} R'(t)F(y)\,dt \leq \beta(t), \alpha(t) + \beta(t) > 0. \qquad (3)$$

The function $\alpha(t)$, $\beta(t)$ would be found as follows: a) If $R' \geqslant 0$

Card 3/5

On the condition of oscillation ...

then $\alpha = R\bar{F}$, $\beta = \int_{t_o}^{t} R'\bar{F}dt$; b) If $R' \leqslant 0$ then $\alpha = R\bar{F}$, $\beta = -\int_{t_o}^{t} R'\bar{F}dt$; c) If R' changes the sign then $\alpha = R\bar{F}$, $\beta = (t - t_o)R'\bar{F}$. Theorem: If $K^2 < 1$ for $t_o \leqslant t \leqslant t_1$ and if $\int_{t_o}^{t_1} \sqrt{Q(1 - k^2)}dt > b + /y_o/$ then the sclutions for initial conditions, for which $k^2 < 1$ will be non-oscillating during $t_o \leqslant t \leqslant t_1$. If $k^2 > 1$ for $t_o \leqslant t \leqslant t_2$ and $\int_{t_o}^{t_2} \sqrt{Q}\, dt < b - /y_o/$ then the solutions for the initial conditions for which $k^2 > 1$ could be oscillating. This could be provided directly using Eqs. (4) and (5). There is 1 Soviet-bloc reference.

Card 4/5

S/021/60/000/008/001/011
D210/D305

On the condition of oscillation ...

ASSOCIATION: Instytut matematyky AN URSR (Institute of Mathematics AS UkrSSR)

PRESENTED: by Y.Z. Shtokalo, Academician AS UkrSSR

SUBMITTED: July 17, 1959

Card 5/5

4160h

S/021/62/000/010/006/008
D251/D308

24,4600

AUTHORS: Shevelo, V.M., and Shtelik, V.H.

TITLE: On the relativistic mechanism of a material point of variable mass

PERIODICAL: Akademiya nauk Ukrayins'koyi RSR. Dopovidi, no. 10, 1962, 1313 - 1316

TEXT: The author considers two partial cases of the equation derived by N.S. Kalitsin (ZhETF, v. 28, 631, 1955) which is a relativistic generalization of I.V. Meshchers'kyy's basic equation for a material point of variable mass. The equations considered are

$$\frac{d}{dt}\frac{m(t)\dot{x}}{(1-\dot{x}^2/c^2)^{1/2}} + F = 0 \qquad (1')$$

$$m(t)\frac{d}{dt}\frac{\dot{x}}{(1-\dot{x}^2/c^2)^{1/2}} + F = 0 \qquad (1'')$$

where m(t) is the rest mass, c is the velocity of light in vacuo,

Card 1/2

and the external force F is assumed of the form F = r(t)f(x). Theorems are proved defining the conditions for uniform oscillation, stability in Lyapunov's sense and the behavior of the amplitude. The stability of the equilibrium position in the case when m(t) is a monotonic function is considered, and the problem of a relativistic pendulum is discussed as an example.

ASSOCIATIONS: Instytut matematyky AN URSR (Institute of Mathematics of the AS UkrSSR) (V.M. Shevelo); Instytut kibernetiky AN URSR (Institute of Cybernetics of the AS UkrSSR) (V.M. Shtelik)

PRESENTED: by Yu.O. Mytropol's'kyy, Academician

SUBMITTED: January 2, 1962

SHEVELO, V. N.

Dissertation: "The Oscillations of a Not Perfectly Elastic Thread (Cable) of Variable Length With a Load at Its End." Cand Phys-Math Sci, Inst of Mathematics, Acad Sci Ukrainian SSR, KIEV, 1953. (Referativnyy Zhurnal--Matematika, Moscow, Aug 54)

SO: SUM 393, 28 Feb 1955

SAVIN, G.N.; SHEVELO, V.N.

Dynamic tensions in hoisting cables used in shallow mine shafts (load lift). Dop. AN URSR no.2:136-139 '54. (MLRA 8:4)

1. Deystvitel'nyy chlen Akademii nauk USSR (for Savin). 2.Institut matematiki AN URSR.
(Cables) (Elasticity)

SHEVELO, V.M.; KUZHIY, A.I.

Using the asymptotic method in solving equations of the motion of a load on a partially elastic rope of variable length. Dop.AN URSR no.6:402-406 '54. (MIRA 9:9)

1.Institut matematiki AN URSR, Kiivs'kiy pedagogichniy institut imeni O.M.Gor'kogo. Predstaviv diysniy chlen AN URSR G.M.Savin.
(Motion) (Wire rope)

SHEVELO, V.N.

4

Savin, G. N., and Ševelo, V. N. On oscillations of a load hanging from an elastic-viscous cord of variable length. Ukrain. Mat. Ž. 6, 457–462 (1954). (Russian)

MS 1-F/W

SAVIN, G.M.; SHEVELO, V.M.

Effect of imperfect elasticity on the vibration of a cord of changing length in lowering a load. Dop. AN URSR no.3:227-230 '55.
(MIRA 8:11)

1. Diysniy chlen Akademii nauk URSR (for Savin) 2. Institut matematiki Akademii nauk URSR.
(Elasticity) (Vibration)

SAVIN, G.N. SHEVKLO, V.N.; KUZHIY, A.I.

Study of longitudinal vibrations in variable-length strings accounting for internal hysteresis-type friction. Prikl.mekh.2 no.2:133-146 '56. (MLRA 9:10)

1.Institut matematiki Akademii nauk URSR.
(Vibration)

ISHLINSKIY, A.Yu.; PARASYUK, O.S.; SHEVELO, V.N.

Gurii Nikolaevich Savin; on the occasion of his 50th birthday.
Ukr.mat.zhur. 9 no.2:225-229 '57. (MLRA 10:7)
(Savin, Gurii Nikolaevich, 1907-)

SAVIN, G.N. [Savin, H.M.] (Kiyev); SHEVELO, V.N. [Shevelo, V.M.] (Kiyev); YUSHCHENKO, A.A. [IUshchenko, O.A.] (Kiyev)

Vibrations of a ponderable incompletely elastic string (rope) of variable length. Prykl. mekh. 4 no.4:384-389 '58. (MIRA 11:12)

1.Institut matematiki AN USSR.
(Elastic rods and wires)

AUTHORS: Shamanskiy, V.Ye. and Shevelo, V.N. 21-58-5-7/28

TITLE: On Equations for the Oscillations of a Rope of Variable Length (Ob uravneniyakh kolebaniy niti (kanata) peremennoy dliny)

PERIODICAL: Dopovidi Akademii nauk Ukrains'koi RSR, 1958, Nr 5, pp 498-501 (USSR)

ABSTRACT: Oscillations of a rope of variable length with allowance for energy dissipation are described by a system of differential equations with partial derivatives obtained by Savin [Ref 1], integration of which presents considerable mathematical difficulties. Making an assumption that displacements of the elements of the rope due to inertia forces are distributed along its length according to the same law as in a case of a ponderable rope stretched by the load Q, the author looks for the solution of the differential equations in the form:

$$u(x,t) = \left(Q + \frac{qx}{2}\right)\frac{x}{kg}\bar{\varphi}(t)$$

where u is absolute lengthening of the section of the rope having a length = x; q is the weight of 1 m of the rope; K is a coefficient which characterizes the stiffness of the rope; and the function $\bar{\varphi}$ (t) is determined with the aid of Galer-

Card 1/2

On Equations for the Oscillations of a Rope of Variable Length

kin's method by means of an ordinary differential equation of the second order with variable coefficients. In the case of a trapezoidal tachogram of lifting, the problem is reduced to the integration of a homogenuous equation. A criterion is obtained for the damping of forces in a ponderable elastic-viscous rope of variable length during lifting and lowering a load suspended by it.
There are 6 Soviet references.

ASSOCIATION: Institut matematiki AN UkrSSR (Institute of Mathematics of AS UkrSSR)
PRESENTED: By Member of the AS UkrSSR, G.N. Savin
SUBMITTED: October 11, 1957
NOTE: Russian title and Russian names of individuals and institutions appearing in this article have been used in the transliteration.

1. Oscillations--Mathematical analysis

SHEVELO, V.M.

Approximate method for the investigation of vibrating systems.
Dop. AN URSR no.6:609-611 '58. (MIRA 11:9)

1.Institut matematiki AN USSR. Predstavil akademik AN USSR A.Yu.
Ishlinskiy [O.IU. Ishlins'kyi]
(Vibrations)

SHEVELO, V.M.; MOSKALYUK, O.V.

General results of the work of conferences and the session of the Department of Physico-mathematical sciences of the Academy of Sciences of the Ukrainian S.S.R. Visnyk AN URSR 29 no. 6:49-52 Je '58. (MIRA 11:7)

(Academy of Sciences of the Ukrainian S.S.R.)

MOSKALYUK, O.; SHEVELO, V.

Results of a conference dealing with problems in using ultrasound in studying properties, quality control and the processing of metals and alloys. Visnyk AN URSR 29:65-67 Ag '58. (MIRA 13:6)

(Ultrasonic waves--Industrial applications)

SOV/179-59-3-10/45

AUTHORS: Shamanskiy, V. Ye. and Shevelo, V. N. (Kiyev)

TITLE: Longitudinal Vibrations of an Elastic Filament (Cable) of Variable Length (O prodol'nykh kolebaniyakh uprugoy niti (kanata) peremennoy dliny)

PERIODICAL: Izvestiya Akademii nauk SSSR, Otdeleniye tekhnicheskikh nauk, Mekhanika i mashinostroyeniye, 1959, Nr 3, pp 65-71 (USSR)

ABSTRACT: The paper is a continuation of previous work (Ref 4). The longitudinal vibrations of a cable of variable length and carrying a load at the end are of interest in connection with lifting gear in mine shafts, and are known (Refs 1 and 2) to be governed by a second order differential equation if the internal friction in the rope is neglected, and by a third order equation if the internal friction is of the viscous type. However, for shafts of up to 500 m in depth, the longitudinal motion of the cable is described to sufficient accuracy by an ordinary second order differential equation. This equation has been derived by Ishlinskiy (Ref 3) and by Savin and Shevelo (Ref 4). The equation leads to appreciable errors for deep shafts (e.g. to errors of

Card 1/2

Longitudinal Vibrations of an Elastic Filament (Cable) of Variable Length

15-20% for shafts 1000 to 1200 m deep). Savin (Ref 5) and Sokolov (Ref 6) have improved the result by deriving two second order ordinary differential equations describing the dynamics of the cable for deep shafts. The effective solution of these equations with variable coefficients is, however, very difficult and in the present paper refinements are introduced into the ordinary second order differential equation which are applicable to the case of a cable of large initial length (a deep shaft). For this purpose, the equations of motion, including an internal friction term are set up and simplified by suitable approximations. The approximate equations are solved for the case of a trapezoidal hoisting tachogram (velocity plotted against time). The resulting solution is evaluated for a special case and the results shown graphically (Fig 3). There are 3 figures and 7 Soviet references.

SUBMITTED: September 19, 1958

SAVIN, G.M. [Savin, H.N.] (Kiyev); SHEVELO, V.N. [Shevelo, V.M.] (Kiyev);
YUSHCHENKO, A.A. [IUshchenko, O.A.] (Kiyev)

A system with variable mass. Prykl. mekh. 5 no.4:441-444 '59.
(MIRA 13:3)

1.Institut matematiki AN USSR.
(Elastic rods and wires—Vibration)

1o(1)

AUTHOR: Shevelc ,V.N. (Kiyev) SOV/41-11-1-9/12

TITLE: Some Remarks on the Motion of an Oscillator With a Variable Mass

PERIODICAL: Ukrainskiy matematicheskiy zhurnal, 1959, Vol 11, Nr 1, pp 105-108 (USSR)

ABSTRACT: If $m(t)\ddot{\varphi}+K\varphi = 0$, then

$$\varphi = A\sqrt[4]{\frac{m(t)}{m(0)}}\sin\left[\int_0^t\sqrt{\frac{K}{m(t)}}\,dt + \beta\right].$$

If m(t) increases intermittently, then there appears a damping; if m(t) decreases intermittently, then there appears a swinging upwards. The author mentions Yu.A.Mitropol'skiy, I.V.Meshcherskiy, M.Ya.Leonov, and G.N.Savin, Academician.
There are 6 Soviet references.

SUBMITTED: September 18, 1958

Card 1/1

16(1),3(1),24 SOV/41-11-3-15/16

AUTHORS: Shevelo, V., Learned Secretary of the OFMN AS Ukr SSR, and Moskalyuk, A., Scientific Worker-Consultant

TITLE: Plenary Meeting of the Section of the Physical-Mathematical Sciences of the Academy of Sciences of the Ukrainian SSR

PERIODICAL: Ukrainskiy matematicheskiy zhurnal, 1959, Vol 11, Nr 3, pp 336-338 (USSR)

ABSTRACT: For the coordination of the problems of research in the sense of the XXIst Party Conference, on April 22-24, 1959 a plenary meeting of the section of the physical-mathematical sciences of the Academy of Sciences of the Ukr.SSR took place. There were 160 participators, members of the Academy, collaborators of the section, representatives of the high schools and factories. The following questions were discussed:

1. Problems of research (V.N.Gridnev, corresponding member AS Ukr SSR)
2. Investigations on numerical mathematics and calculating technics (B.N.Malinovskiy)
3. Analytical methods of the quantum field theory (O.S.Parasyuk, corresponding member)

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SOV/41-11-3-15/16

Plenary Meeting of the Section of the Physical-Mathematical Sciences of the Academy of Sciences of the Ukrainian SSR

4. Investigations on probability theory and statistics (B.V. Gnedenko, Academician)
5. Theory of electronic processes in dielectrica and semiconductors (S.I.Pekar)
6. Metal physical investigations and vacuum methods (V.Ye.Ivanov)
7. Investigations of radio astronomy (S.Ya.Braude, corresponding member)
8. Solar investigations in the GAO AS Ukr SSR (Ye.A.Gurtovenko)
9. Investigations during the geophysical year in the Poltava Gravimetric Observatory (Z.N.Aksent'yeva, corresponding member AS Ukr SSR)
10. Prospects of the research in 1959-1965.

The academicians N.P.Barabashov, A.G.Gol'dman, A.P.Komar, D.G. Lazarev, and I.Z.Shtokalo, and the corresponding members Z.N. Aksent'yeva, A.I.Akhiyezer, Yu.A.Mitropol'skiy, N.D.Morgulis, M.V.Pasechnik, A.Ya.Usikov, and A.A.Yakovkin had a share in the discussion.

The meeting passed a series of resolutions, especially the

Card 2/3

Plenary Meeting of the Section of the Physical-Mathematical Sciences of the Academy of Sciences of the Ukrainian SSR SOV/41-11-3-15/16

following domains shall be the most important fields of research: Nuclear physics, accelerators of charged particles, physics of the rigid body, physics of semiconductors, physics of low temperatures, radio physics and electronics, radio astronomy, numerical mathematics and computing technics, mathematical physics, theory of probability, mechanics of the rigid body, astronomy, and astrophysics.

SUBMITTED: May 12, 1959

SHEVELO, V.N. [Shevelo, V.M.]; SHTELIK, V.G. [Shtelik, V.H.]

On the motion of a pendulum of variable length and mass. Dop.AN URSR no.7:884-887 '60. (MIRA 13:8)

1. Institut matematiki AN USSR. Predstavleno akademikom AN USSR I.Z.Shtokalo.

(Pendulum)

SHEVELO, V.N. [Shevelo, V.M.]; SHTELIK, V.G.[Shtelik, V.H.]

Conditions of the oscillation (nonoscillation) of solutions of nonlinear differential equations of the second order with variable coefficients. Dop.AN URSR no.8:1007-1010 '60. (MIRA 13:9)

1. Institut matematiki AN USSR. Predstavleno akademikom AN USSR I.Z.Shtokalo.

(Differential equations)

SHEVELO, V. N. and SHTELIK, V. G.

"Some problems of the theory of nonlinear vibration on non-automous one-dimensional systems."

Paper presented at the Intl. Symposium on Nonlinear Vibrations, Kiev, USSR, 9-19 Sep 61

Institute of Mathematics of Sciences of the Ukrainian SSR

33866 S/041/62/014/001/007/007
B112/B104

16.3400

AUTHORS: Shevelo, V. N., Shtelik, V. G. (Kiyev)

TITLE: Sufficient conditions for the stability of solutions of some nonlinear second-order equations

PERIODICAL: Ukrainskiy matematicheskiy zhurnal, v. 14, no. 1, 1962, 109 - 112

TEXT: The authors investigate the stability of the trivial solution $z = 0$ of the system $z'' + \alpha(t)z' + \delta(t)z + g(z, t) = 0$. It is demonstrated that the solution $z = 0$ is asymptotically stable if the conditions $0<\alpha_1 \leqslant |\alpha(t)| \leqslant \alpha_2 < \infty$, $0 < \delta_1 \leqslant |\delta(t)| \leqslant \delta_2 < \infty$, $4\alpha_1\delta_1(\alpha_1 + \alpha_2) > (\delta_2 - \delta_1)(\alpha_2^2 + 4\delta_1 \operatorname{sign}\delta(t))$, $\operatorname{sign}\delta(t) = \operatorname{sign}\alpha(t) = 1$ are fulfilled. If the relation $\operatorname{sign}\delta(t) = \operatorname{sign}\alpha(t) = 1$ is not valid, the solution $z = 0$ will be unstable. It will also be unstable if the conditions $|\alpha(t)| \leqslant \alpha_2 < \infty$, $\operatorname{sign}\delta(t) = -1$, $|\delta(t)| \geqslant \delta_1 > 0$, $\alpha_2^2 < 4\delta_1$ are fulfilled. A. M. Lyapunov (Sobr. soch., t. 2,

Card 1/2

33866
S/041/62/014/001/007/007
B112/B104

Sufficient conditions for the ...

Izd-vo AN SSSR, M.-L., 1956) is referred to. There is 1 Soviet reference.

4

SUBMITTED: March 15, 1961

Card 2/2

43390

S/041/62/014/004/002/007
B172/B112

21.4100

AUTHORS: Shevelo, V. N., Shtelik, V. C. (Kiyev)

TITLE: Theory of the non-autonomous mathematical pendulum

PERIODICAL: Ukrainskiy matematicheskiy zhurnal, v. 14, no. 4, 1962, 372 - 382

TEXT: The equation of the non-autonomous mathematical pendulum $(ml^2x')' + mglf(x) = 0$ is studied for the approximations a) $f(x) \sim x$, b) $f(x) = x - \frac{x^3}{3!}$, c) $f(x) = x - \frac{x^3}{3!} + \frac{x^5}{5!}$ and for d) $f(x) = \sin x$ on the following assumptions: (1) $m(t)$ and $l(t)$ are continuously differentiable for all $t \geqslant t_0 \geqslant 0$; (2) $m(t)$ and $l(t)$ are either limited and positive or $0 < l_1 \leqslant l(t) \leqslant l_2 < \infty$, $m(t)l^2(t) = \exp\left(\int \alpha(t)dt\right)$, $|\alpha| \leqslant \alpha_2 < \infty$. A number of theorems supply conditions under which the pendulum describes a rotary, oscillatory or damped motion. The following main results are obtained: if $s(t) = m^2/l^3$ is monotonic then $x = 0$ is a stable equlibrium position

Card 1/2

Theory of the non-autonomous r...

and the amplitudes of uniformly oscillating motions of the pendulum are monotonic; a dependence exists between the changes in the mass m and the length l at which the non-autonomous pendulum describes the same form of motion as an autonomous pendulum; the equation of motion for the third approximation c) gives a poorer description of the pendulum dynamics than that for the second approximation; a non-autonomous pendulum may describe oscillatory motions which are impossible for an autonomous pendulum.

SUBMITTED: April 20, 1962

Card 2/2

SHEVELO, V.N. [Shevelo, V.M.]; SHTELIK, V.G. [Shtelik, V.H.]

Relativistic mechanics of a material point of variable mass. Dop. AN URSR no.10:1313-1316 '62. (MIRA 18:4)

1. Institut matematiki AN UkrSSR i Institut kibernetiki AN UkrSSR.

S/020/63/149/002/006/028
B112/B180

AUTHORS: Shavelo, V. N., Shtelik, V. G.

TITLE: Certain problems concerning the oscillation of solutions to non-linear non-autonomous second-order equations

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 149, no. 2, 1963, 276-279

TEXT: For the equation

$$(k(t)x')' + f(x,x',t) = 0 \qquad (1)$$

the following fundamental problems are investigated: (1) To find out conditions for $k(t)$ and $f(x,x',t)$ under which all solutions of Eq. (1) are non-oscillatory, rotational, or oscillatory, respectively. (2) To determine the regions of non-oscillatory, rotational, and oscillatory solutions to Eq. (1) for fixed $k(t)$ and $f(x,x',t)$. (3) To derive a law of variation of the coefficients of Eq-(1) under a given set of initial conditions, such as would guarantee a given character of oscillation for the solutions.

Card 1/2

Certain problems concerning the ...

ASSOCIATION: Institut matematiki Akademii nauk USSR
(Institute of Mathematics of the Academy of Sciences UkrSSR);
Vychistel'nykh tsentr Akademii nauk USSR
(Computer Center of the Academy of Sciences UkrSSR)

PRESENTED: September 29, 1962, by N. N. Bogolyubov, Academician

SUBMITTED: March 15, 1962

SHEVELO, V. N. (Kiev)

"Problems, methods, and basic results in the theory of oscillation of solutions of non-linear dissimilar equations".

report presented at the 2nd All-Union Congress on Theoretical and Applied Mechanics, Moscow, 29 January - 5 February 1964.

SHEVELOV, A.

Some shortcomings of the "Mir" radio receiver. Radio no.12:27 D '54. (MLRA 8:1)

(Radio--Receivers and reception)

KIRAKOSOV, Viktor Paruirovich, kandidat tekhnicheskikh nauk; SHEVELOV, B.N., inzhener, redaktor; SAFONOV, P.V., redaktor izdatel'stva; MEDVEDEV, L.Ya., tekhnicheskiy redaktor

[Investigation of seepage in concrete structures subject to water pressure] Issledovanie fil'tratsii v postroennykh vodopodpornykh betonnykh sooruzheniiakh. Moskva, Gos. izd-vo lit-ry po stroit. i arkhitekture, 1956. 233 p. (MLRA 9:12)
(Foundations) (Hydraulic engineering)

SHEVELOV, F.A.; MINTS, D.M., doktor tekhn.nauk

Water supply in the Netherlands. Vod. i san. tekh. no.9:32-34 '62. (MIRA 15:12)

1. Deystvitel'nyy chlen Akademii stroitel'stva i arkhitektury (for Shevelov).
(Netherlands—Water-supply engineering)

SHEVELOV, V.A.; BAN'KOVSKIY, A.I.

Extractor with inclined countercurrent evaporator. Med.prom. no.3: 29-31 Jl-S '55. (MIRA 9:12)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut lekarstvennykh i aromaticheskikh rasteniy.
(PHARMACY, apparatus and instruments,
inclined countercurrent evaporator for plant extracts)

ZHURAVLEV, Yo.F.; SHEVELOVA, A.D.; DUDKINA, S.V.

Equilibrium of the liquid phases in the system isobutyric acid - pyramidon - water. Izv.vys.ucheb.zav.; khim.tekh. 3 no.4:620-624 '60. (MIRA 13:9)

1. Permskiy gosudarstvennyy universitet im. A.M. Gor'kogo, kafedra neorganicheskoy khimii.
(Isobutyric acid) (Aminopyrine) (Systems (Chemistry))

SHEVELOVA V.M.

BARSABOV, G.P.; SHEVELOVA, V.A.

Contributions to the study of luminescence of minerals. Trudy Min. muz. no.4:3-35 '52. (MLRA 7:11)
(Luminescence) (Mineralogy)

SHEVELOVA, Ye. M.

"Change in the Protein Content and Absolute Hemoglobin Content of the Blood in Acute Parenchymatous Hepatitis," Sbornik Nauchnykh Trudov Kirgizskogo Gosudarstvennogo Meditsinskogo Instituta, Frunze, Vol 7, 1951, pp 179-184.

[illegible] UKHA, V. [illegible]

COUNTRY : [illegible]

CATEGORY : Cultivated Plants. Grains. Leguminous Grains. Tropical Cereals.

ABS. JOUR. : RZhBiol., No. [illegible], 1958, No. 1608

AUTHOR : [illegible], V. [illegible]

INST. : [illegible] Agric. Inst. in [illegible]

TITLE : Observations on the Variability of Winter Barley in the Foot-hill Zone of the Northern Caucasus.

ORIG. PUB. : Izv. [illegible] s.-kh. inst., 1957, [illegible], [illegible]

ABSTRACT : [illegible] the changes in the structure of ears of winter barley [illegible] by the [illegible] selection station. The changes were observed in a sample with forked [illegible] ture of the awns. The sample was obtained by propagation of one plant which was isolated from the variety sample [illegible] in individual plants, and even in individual ears of one plant, the degree of [illegible] of forking [illegible] varies greatly [illegible] of these changes are pre-[illegible] by the [illegible] station, [illegible] to the [illegible] gave in [illegible].

SHKVELUKHA, V.S., aspirant.

Corn photosynthesis with relation to fertilization in Yaroslavl Province. Dokl. TSKhA no.29:99-104 '57. (MIRA 11:8)

1. Starshiy agronom uchkhoza "Batrachka."
(Corn (Maize)) (Photosynthesis)

SHEVELUKHA, V.S., agronom.

Causes of clover failure during its first year of growth. Agrobiologiia no.1:130-131 Ja-F '58. (MIRA 11:2)

1. Uchebno-opytnoye khozyaystvo "Batrachka" Moskovskoy sel'skokhozyaystvennoy akademii imeni K.A. Timiryazeva.
(Ryazantsevo District--Clover) (Starch)

SHEVELUKHA, V.S.

Stages of organogenesis in relation to the growth of corn in height. [With summary in English]. Izv. TSKhA no.5:59-70 '58. (MIRA 11:11)

(Corn (Maize)) (Growth (Plants))

SHEVELVA, A.P., glavnyy vrach; SYRKINA, D.G.

Source of dysentery infection of infants. Zhur.mikrobiol.epid.i immun. no.9: 37-39 S '53. (MLRA 6:11)

1. Tashkentskaya gorodskaya infektsionnaya bol'nitsa. (Dysentery)

ACC NR: AP6029684 (N) SOURCE CODE: UR/0369/66/002/004/0437/0440

AUTHOR: Karlashov, A. V.; Shevelya, V. V.

ORG: Kiev Institute of Civil Aviation Engineers (Kiyevskiy institut inzhenerov grazhdanskoy aviatsii)

TITLE: Some problems of surface phenomena and corrosion fatigue

SOURCE: Fiziko-khimicheskaya mekhanika materialov, v. 2, no. 4, 1966, 437-440

TOPIC TAGS: metal surface, surface property, corrosion rate, corrosion resistant metal

ABSTRACT: A brief review is given of the relationship between surface phenomena and corrosion fatigue of metals. Results are presented on a study of the influence of cyclic loading in media of various activity on the criteria of static strength of D16 AT alloy and on its electrical conductivity, which is a structurally sensitive characteristic. Factors are analyzed which may have an effect in inforcing electrochemical heteorogeneity of the metal surface when it is placed under a repeated strain with changes of sign. Flat specimens of D16 AT Duraluminum were tested for fatigue in air and in a 3% aqueous NaCl solution. The influence of the corrosive medium which was discovered in the case of cyclical loading on the strength and plasticity properties, plus the absence of any corrosive medium effect in the case of static extension, show that specific surface processes take place in the case of fatigue, allowing

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ACC NR: AP6029684

the corrosive medium to interact with considerable columes of the metal through the structural defects which are formed by the fatigue loading. The surface localization of the defect structure provides a location for contact of the active external medium with large volumes of metal, which is the cause of the influence of this medium on the strength, plasticity, and wear resistance of the metal. Orig. art. has: 5 figures.

SUB CODE: 11,13/ SUBM DATE: 10Feb66/ ORIG REF: 016/ OTH REF: 003

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L 00903-67 EWT(d)/EWT(m)/EWP(w)/T/EWP(t)/ETI IJP(c) JD/WB/EM

ACC NR: AP6020912 SOURCE CODE: UR/0369/66/002/002/0162/0166

AUTHORS: Kostetskiy, B. I.; Karlashov, A. V.; Shevelya, V. V.

ORG: Kiev Institute of Civil Aviation Engineers (Kievskiy institut inzhenerov grazhdanskoy aviatsii)

TITLE: A radiographic study of the fatigue of D16AT alloy in connection with the action of media

SOURCE: Fiziko-khimicheskaya mekhanika materialov, v. 2, no. 2, 1966, 162-166

TOPIC TAGS: fatigue strength, fatigue test, aluminum alloy, x ray diffraction camera, radiography, metal stress, metal deformation / D16AT aluminum alloy, URS-50IM x ray diffraction camera

ABSTRACT: The results of a radiographic study of the fatigue of D16AT alloy are given. The alloy was studied in the annealed state (350C, 1 hr) and in the hardened state with subsequent aging. A URS-50IM diffractometer with copper K_α radiation was used. The hardened samples were tested under a load of 10 dyne/mm^2 ; the annealed, 7 dyne/mm^2. In all cases, there was no change in the line (200) width with cyclic loading (see Fig. 1). A certain increase in microstresses was observed in testing D16AT alloy above the fatigue limit. Third-order distortions (more clearly expressed for the hardened state) were observed in the fatigue tests. Fatigue was

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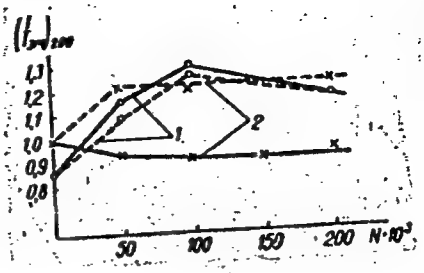
ACC NR: AP6020912

Fig. 1. Relative strength of line (200) versus number of cycles: 1 - hardened and aged; 2 - annealed. Continuous line—tests in air; dotted line—tests in 3% NaCl solution.



accompanied by crushing and block disorientation, which were more intensive in the hardened state. The adsorption-corrosion action of media is shown more clearly radiographically in the annealed alloy. Orig. art. has: 4 graphs and 2 photographs.

SUB CODE: 11/ SUBM DATE: 25Nov65/ ORIG REF: 017/ OTH REF: 001

awm
Card 2/2

USSR/General Problems of Pathology. Immunity

Abs Jour : Ref Zhur - Biol., No 13, 1958, No 60968

Author : Shevelyev A.S.
Inst : Smolensk Medical Institute
Title : The Effect of a Splenactomy and of a "Blockade", on the Post-Vaccination Anti-Toxic Immunity of White Mice to Spotted Typhus.

Orig Pub : Tr. Smolenskogo med. in-ta, 1957, 7, 222-226

Abstract : Mice, who had a splenectomy performed on them 24-48 hours before they were immunized with spotted typhus vaccine, or had received subcutanous injections of a 0.5 percent trypan blue solution (1:0.05 milligrams per gram) 2 hours prior to vaccination, showed that the formation of a post-vaccination immunity in them was completely suppressed. The splenectomy performed on immune mice at the maximum peak of immunity (12-14 days after vaccination), 24-48 hours before the immunity test, somewhat decreased it. When blockade of RES by trypan blue was made 2 hours before a test for immunity, no changes were observed.

PHASE I BOOK EXPLOITATION SOV/4148

Shevelyuk, Mikhail Ivanovich

Teoreticheskiye osnovy proyektirovaniya zhidkostnykh raketnykh dvigateley (Theoretical Bases for the Design of Liquid-Fuel Rocket Engines). Moscow, Oborongiz, 1960. 684 p. Errata slip inserted. 9,500 copies printed.

Reviewer: A.V. Kvasnikov, Doctor of Technical Sciences, Professor; Ed.: I.L. Yanovskiy, Engineer; Ed. of Publishing House: M.F. Bogomolova; Tech. Ed.: N.A. Pukhlikova; Managing Ed.: S.D. Krasil'nikov, Engineer.

PURPOSE: This textbook is intended for students of higher technical schools taking courses in rocket propulsion and related subjects, and may also be useful to engineers and technicians in this field.

COVERAGE: In this book the theoretical principles for designing liquid-fuel rocket engines are presented. Engine and thrust chamber processes and characteristics, and operating conditions of liquid-fuel rocket engines are studied. The design and calculation of injection systems, liquid-propellant feed systems, and the characteristics of rocket propellants are also investigated. Problems of thrust chamber cooling and of the operation and testing of liquid-fuel rocket engines

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SOV/9[illegible]-59-9-21/33

8(6), 9(2)

AUTHOR: Shevenko, L.I., Engineer

TITLE: Potentiometer Transducers

PERIODICAL: Energetik, 1959, Nr 9, pp 28-30 (USSR)

ABSTRACT: The author describes potentiometer transducers for recording pressure and mechanical displacements and a power supply unit, which were developed at the power engineering laboratory of Lenenergo. When testing and adjusting turbine speed governors, numerous processes must be recorded by magnitude and in time: pressure changes in the governor system, nonlinear and angular displacements of single mechanisms, rpm number changes, temperature changes at different points, etc. Frequently, such processes must be recorded by oscillographs within short periods. Sometimes, recording during a longer period of time is required, whereby automatic potentiometers or other recording instruments are used. Therefore, it is desireable to have such primary transducers which may be connected to oscillographs, automatic potentiometers or other

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recording instruments. In some cases a direct visual observation is required, either at the transducer itself, or at some measuring instrument connected to the transducer outlet. The method of using potentiometer transducers found wide-spread application in the USSR and abroad. The disadvantages of this method are that considerable mechanical moments must be available at the primary instrument and the necessity of providing a stabilized dc power supply. The best results were obtained with potentiometer transducers when they were used in combination with pressure gages and instrument measuring mechanical displacements. In these cases, a fork is used for connecting the potentiometer slide with the needle of the primary indicator, which may be achieved without any excessive play. The author describes briefly a transducer of mechanical displacements of 0-7 mm based on a KI dial indicator as shown in Figure 1. A transducer for linear displacements of 0-750 mm is shown in Figure 2. The author states that the connection of

potentiometer transducers to dial indicators, pressure gages, etc does not influence their measuring accuracy. The arrangement of the measuring circuit is shown in Figure 3. The circuit diagram of the power supply unit is shown in Figure 4. The power supply unit consists of a SN220/12 volt ferroresonance stabilizer, rectifier VG, a potentiometer, a voltmeter and two batteries each consisting of three NKN-10 cells. The outlet voltage is 3.8 volts. The batteries are charged by the rectifiers. Current pulsation of the rectifiers will not appear on the oscillogram. Such a power supply unit may be designed for a greater number of transducers. However, the best results were achieved with six transducers. Experimental models of potentiometer transducers and power units functioned without failures during tests. Since their error does not exceed 1%, they produce sufficiently accurate oscillograms and recordings on the tape of the EPP-09 electronic potentiometer. There are 2 photographs and 2 circuit diagrams.

SHEVENKO, L.I., inzh.

Water level relay with an electrode pickup. Energetik 8 no.2:18-20 F '60. (MIRA 13:6)
(Automatic control) (Liquid level indicators)

SHEVENKO, L.I., inzh.

Raising the resetting ratio of intermediate relays. Energetik 8 no.4:25-26 Ap '60. (MIRA 13:8)
(Electric relays) (Automatic control)

SHEVENKO, L. I., inzh.

Controlling the speed of hydraulic units. Energetik 8 no.5:23-24 My '60. (MIRA 13:8)

(Hydraulic turbines)

SHEVENKO, L.I., inzh.

Automatic device for repeated switching-in of a high voltage stand. Energetik 8 no.7:27-28 Jl '60. (MIRA 13:8)

(Electric testing)
(Electric switchgear)

VLASOV, B.V., starshiy mekhanik; SHEVENKO, L.I., inzh.

Simplified repair of manometric TS-100 temperature signaling devices. Energetik 9 no.4:25-27 Ap '61. (MIRA 14:8)
(Temperature regulators)